

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

**AMENDED CLEANUP AND ABATEMENT ORDER NO. 6-98-73A2
WDID NO. 6A099810N01**

**Requiring Equilon Enterprises LLC and Equiva Services LLC to
Clean Up and Abate the Effects of the Discharge of
Petroleum Products to the Ground Waters of the
Lake Tahoe Hydrologic Unit at the Shell Service Station,
1866 Santa Fe Road, Meyers, El Dorado County
Assessors Parcel Number 034-402-011**

El Dorado

The California Regional Water Quality Control Board, Lahontan Region (Regional Board) finds:

1. The Regional Board Executive Officer issued Cleanup and Abatement Order (CAO) No. 6-98-73 on October 30, 1998. The Order required Equilon Enterprises, LLC (hereinafter referred to as the Discharger) to clean up and abate the effects of petroleum products discharged from a product line that failed during a pressure test on October 21, 1998. The product line failure discharged approximately 640 gallons of gasoline to the soil and underlying ground water. Ground water occurs approximately ten feet below ground surface at the site. The Discharger completed the tasks required in CAO 6-98-73, with the exception of ongoing monthly monitoring and quarterly reporting.
2. On July 20, 1999, the Regional Board Executive Officer issued Amended CAO No. 6-98-73A1 to Equilon Enterprises LLC and Equiva Services LLC (hereinafter referred to as the Dischargers) to require additional investigation to define the extent of contamination and to clean up all contaminated ground water resulting from the site. The original CAO 6-98-73 did not specifically address offsite remediation. The investigation activities completed under the original CAO 6-98-73 indicated that the groundwater contamination plume had migrated offsite. The Dischargers complied with all orders in CAO 6-98-73A1 except for Order No. 6, because the lateral and vertical extents of the plume are much larger than anticipated and have not been defined. Therefore, the Dischargers were unable to install and operate an offsite system to contain and remediate the entire extent of groundwater contamination from the Meyers Shell Service Station.
3. CAO No. 6-98-73 and CAO No. 6-98-73A1 require the Dischargers to analyze groundwater samples from the wells for gasoline oxygenates: methyl tertiary-butyl ether (MtBE), tertiary-butyl alcohol (TBA), di-isopropyl ether (DIPE), ethyl tertiary-butyl ether (EtBE), and tertiary amyl methyl ether (TAME). The Dischargers have only analyzed for MtBE and have not analyzed samples for TBA, DIPE, EtBE, or TAME.

4. Monthly groundwater samples from perimeter/downgradient Well S-21 (100 feet below ground surface [bgs]) have consistently shown concentrations of MtBE increasing from 25.0 µg/L (ppb) in November 1999 to 41.1 µg/L in February 2000. Similarly, groundwater samples from downgradient Well S-16 (80 feet bgs) have shown relatively consistent concentrations of MtBE ranging from 90.6 µg/L to 60.1 µg/L, for the respective same months. Water level measurements in Wells S-16 and S-17 over the same period indicate that the vertical hydraulic gradient may be greater than the horizontal gradient. This data suggests that additional information is required in both the deeper zone (between 100 and 150 feet bgs) and the perimeter areas to adequately define the lateral and vertical extent of the groundwater contamination plume that originated from the Meyers Shell Service Station.
5. A municipal drinking water well, known as the Bakersfield Well, is located approximately 2,800 linear feet from the Meyers Shell Service Station. That well, operated by the South Tahoe Public Utility District (STPUD), currently pumps at an average rate of about 1,600 gallons per minute and is the major supplier of drinking water to the Meyers community and surrounding areas. The Bakersfield Well pumps from depths between 130 to 310 feet bgs, which has been identified as being below a 30-foot thick, less-permeable, silty-clay zone. The Dischargers have not explored below about 100 feet bgs and have not confirmed the presence or absence of a significant silty-clay zone beneath the Meyers Shell Service Station. Also, no pump tests have been performed on the Bakersfield Well to calculate the radius of influence by that well, but transmissivity estimates for that aquifer range from 12,000 to 17,000 gallons per day per foot. No data exist to determine whether or not there is a hydraulic connection between the STPUD Bakersfield Well and the Meyers Shell plume. However, the data suggest that the MtBE plume may be descending below the 100-foot depth.
6. To protect groundwater quality and beneficial uses, additional investigation and remediation tasks are needed at the site. This amended Order lists additional tasks and compliance dates that require the Dischargers to take all actions necessary to contain and remediate groundwater contamination associated with the Meyers Shell Service Station and to restore the groundwater quality in a timely manner.
7. This enforcement action is being taken by this regulatory agency to enforce the provisions of the California Water Code and as such is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21000 et. Seq.) in accordance with Section 15321, Chapter 3, Title 14, of the California Code of Regulation.

THEREFORE, IT IS HEREBY ORDERED that pursuant to California Water Code Sections 13267 and 13304, Equilon Enterprises LLC and Equiva Services LLC shall clean up and abate the discharge and threatened discharge of petroleum hydrocarbons and other wastes discharged to the waters of the State, and shall comply with the provisions of this order:

1. Equilon Enterprises LLC and Equiva Services LLC shall conduct the additional investigation and cleanup tasks by or under the direction of a California registered geologist or civil engineer experienced in the area of groundwater pollution cleanup.
2. Equilon Enterprises LLC and Equiva Services LLC shall not cause or permit any waste to be discharged or deposited where it is, or probably will be, into the waters of the State.
3. Continue to operate the existing groundwater extraction system from one or more wells to contain and remediate petroleum product contamination in ground water. Operation shall continue until Regional Board staff approves of shutting the system down.

4. Additional Investigation

- 4.1 By **May 15, 2000**, submit a workplan for additional investigation to define the vertical and lateral boundaries of contamination. The workplan shall include plans to explore the deeper zone to confirm the presence or absence of the less-permeable, silty-clay zone that may be between 100 and 150 feet bgs. At least one deep hole shall be drilled onsite (in the open area east of Well S-3) to a depth of either 150 feet bgs or to encounter a significant silty-clay layer, whichever is shallower. The investigation shall also explore the downgradient, offsite areas north of Wells S-21 and S-22, both in the shallow zone and the deeper zone (>100 feet deep).
- 4.2 **Within thirty (30) days** of receiving workplan approval (written or oral) by Regional Board staff, complete the additional groundwater investigation activities. The groundwater investigation must include sampling and analysis of ground water from the groundwater monitoring points in the approved workplan and measurement of groundwater potentiometric surface elevations at the monitoring points. Submit by facsimile the groundwater elevations and results of laboratory chemical analyses to Regional Board staff within 30 days of sampling. Incorporate investigation results in the next regularly scheduled quarterly groundwater monitoring report.
- 4.3 By **August 1, 2000**, submit a technical report to the Regional Board that presents the results of the groundwater investigation. At a minimum, the report shall:
 - 4.3.1 Provide a narrative description of work performed and information provided;
 - 4.3.2 Include boring logs, monitoring well designs, survey plat, and analytical data;
 - 4.3.3 Include site maps showing the location of all monitoring wells and the boundary of the MtBE plume out to 0.5 µg/L;
 - 4.3.4 Include geologic cross-sections that show the depth to groundwater and the vertical extent of the petroleum plume with details on location and thickness of significant silty-clay lenses or layers;

- 4.3.5** Describe whether or not the plume is following preferential pathways and the basis for that conclusion;
- 4.3.6** State whether the lateral and vertical extent of the plume is defined out to <0.5 µg/L MtBE. If the lateral and vertical extent of the plume is not defined out to <0.5 µg/L MtBE, include a proposal for additional investigations that will define the lateral and vertical extent of the plume with a high degree of confidence.

5. Offsite Remediation System

- 5.1** By **August 1, 2000**, submit a workplan to install and operate an offsite remediation system to achieve hydraulic containment of the entire extent of petroleum products and gasoline additives that have originated from the Meyers Shell site. Design the offsite remediation system to provide hydraulic capture of the contaminated ground water, to remove the contaminants, and to prevent migration of the plume toward any municipal drinking water supply well(s) when the well(s) are in operation.
- 5.2** By **November 1, 2000**, continuously operate the approved offsite remediation system to achieve hydraulic containment of the known extent of the plume.

6. Well Survey

Groundwater monitoring wells, including any new wells installed under this CAO, shall be surveyed by a California licensed land surveyor. The survey shall be referenced to the North American Datum of 1927 (NAD27) and the National Geodetic Vertical Datum of 1929 (NGVD29). Groundwater elevations shall be reported in reference to these surveyed data. Groundwater elevation data shall be collected from all wells at and around the site within an eight-hour period in order to produce comparable data.

7. Sampling and Analytical Criteria

All samples collected for chemical analyses shall adhere to following criteria: analyses for oxygenates (MtBE, EtBE, DIPE, TBA, and TAME) shall be by EPA Method 8260b, or its equivalent; detection limits for BTEX and oxygenates shall not be greater than 0.5 µg/L (ppb) in aqueous samples and 5 ppb in soil samples; detection limit for TBA shall not be greater than 5 ppb in aqueous samples and 250 ppb in soil samples; detection limit for TPH-g shall not be greater than 50 ppb for aqueous samples and 500 ppb in soil samples. QA/QC samples shall include 1) one trip blank per cooler and 2) one equipment blank per piece of sampling equipment (sample bailer, sample pump, etc.); if disposable bailers are used for sampling, one equipment blank shall be submitted from one representative bailer per sampling round. Laboratory QA/QC samples shall be analyzed for TPH-g, BTEX, and MtBE.

7.1 Monthly Analyses

Continue to collect groundwater elevations by **the 8th of every month** from all monitoring wells and extraction wells, and sample ground water in all perimeter wells (including all new wells installed under this CAO), except for Wells S-14 and S-15, for chemical analysis of MtBE.

7.2 Quarterly Analyses

7.2.1 Continue to sample ground water in specific wells by **the 8th of every third month** (once each quarter) for chemical analyses of MtBE. The specific wells sampled and analyzed quarterly for MtBE shall include: S-2, S-3, S-14(20,40,60,80), S-15(20,40,60,78), S-16(20,40,60,80), S-17(14,40,66,80).

7.2.2 Continue to sample ground water in specific wells by **the 8th of every third month** (once each quarter) for chemical analyses of TPH-g and BTEX. The specific wells to be sampled and analyzed quarterly for TPH-g and BTEX include: S-1, S-2, S-3, S-16(20,40,60,80), S-17(14,40,66,80), S-21(20,40,60,80,100), S-22(20,40,60,80,100), and all news wells installed under this CAO.

7.3 Annual Analyses

Continue to sample groundwater in specific wells by **the 8th of every twelfth month** (once each year) for chemical analyses of TPH-g and BTEX. The specific wells to be sampled and analyzed annually for TPH-g and BTEX include: S-4, S-5, S-5ED, S-6, S-6ED, S-7(ES,ED), S-8(ES,ED), S-9(ES,ED), S-10(ES,ED), S-11(ES,ED), S-12(ES,ED), S-13(ES,ED), S-14(20,40,60,80), S-15(20,40,60,78), S-18(15,40,66,80), S-19(20,40,66,80), S-20(20,40,60,80), and S-23(24,45,65).

7.4 Special Analyses

At the next available sampling event, or by **May 8, 2000**, whichever is earlier, collect groundwater samples from all wells and analyze for gasoline oxygenates including MtBE, EtBE, DIPE, TBA, and TAME. Submit analytical results to the Regional Board by facsimile within 30 days of sampling. Further analyses of oxygenates may be required by Regional Board staff pending evaluation of the results from the full, area-wide analyses.

8. Quarterly Monitoring Reports

Continue to submit monitoring reports by **the 12th of every third month**. The report must contain progress on the cleanup status, which demonstrates continued compliance with cleanup actions required by the Regional Board. The reports must include summaries of the ongoing monthly groundwater monitoring data to show the concentrations of MtBE, other gasoline product oxygenates, BTEX, and TPH-g in groundwater. All data shall be cumulatively tabulated. The report must contain a list of and an explanation of each instance when the groundwater cleanup system(s) is inoperative for 12 hours or more. The Regional

Board must be notified by facsimile within one working day after the remediation system is observed to be inoperative.

9. Summary of Ordered Tasks

A summary of the Ordered task deliverables follows and may be revised from time to time by the Regional Board:

<u>Order</u>	<u>Task Deliverable</u>	<u>Date Due</u>
4.1	Additional Investigation Workplan	May 15, 2000
4.2	Complete Additional Investigation	Within 30 days of approval
4.3	Additional Investigation Technical Report	August 1, 2000
5.1	Offsite Remediation System Workplan	August 1, 2000
5.2	Operate Offsite Remediation System	November 1, 2000
7.1	Monthly groundwater elevations and MtBE samples from all perimeter wells except Wells S-14, 15	8 th of every month
7.2.1	Quarterly MtBE samples from Wells S-2, 3, 14, 15, 16, 17	8 th of every third month
7.2.2	Quarterly TPH-g and BTEX samples from Wells S-1, 2, 3, 16, 17, 21, 22	8 th of every third month
7.3	Annual TPH-g and BTEX samples from Wells S-4, 5, 5ED, 6, 6ED, 7-15, 18, 19, 20, 23	8 th of every twelfth month
7.4	Analyze all wells for gasoline oxygenates: MtBE, EtBE, DIPE, TBA, TAME	May 8, 2000
8	Submit Quarterly Monitoring Reports	12 th of every third month

Failure to comply with the terms or conditions of this Cleanup and Abatement Order will result in additional enforcement action, which may include the imposition of administrative civil liability pursuant to Sections 13267 and 13350 of the California Water Code or referral to the Attorney General of the State of California for such legal action as he or she may deem appropriate.

Ordered by: _____ Dated: April 14, 2000
HAROLD J. SINGER
EXECUTIVE OFFICER